



21512-US Sequence listing.ST25.txt
SEQUENCE LISTING

<110> Bogdahn, Ulrich
<120> Inhibitors of TGF-R signaling for treatment of CNS disorders
<130> HPT-P01374WO
<140> PCT/EP2005/001298
<141> 2005-02-09
<150> EP 04002846.6
<151> 2004-02-09
<160> 163
<170> PatentIn version 3.3
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<212> DNA
<213> Homo sapiens

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| gagtttctaa | actaggttga | gggagagttt | ctaaactagc | ccccagatt | tgggcttgg | 1320 |
| agcttaaatg | aaaagtccag | gagaataag | ggcacacagg | aaccccggga | acactggtcc | 1380 |
| tcaaacagtg | ccactgtact | tagttccatg | gccagaagag | aagtgttagg | caggaaatga | 1440 |
| ttatttgca | aaagcaagtg | caatgtggtc | atagctggct | gtgagacatg | gagcctttt | 1500 |
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| attcctggg | aatatttgat | gttttcctt | gtctctttc | aaggtatggc | tatatatata | 1680 |
| gagctataga | catatataga | tatatatata | tatataaaa | acatagctat | tcatatttat | 1740 |
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| gaggaagtgc | taacacagct | tatcctatga | caatgtcaaa | ggcatagaat | gctctatgtc | 1860 |
| acccactccc | tgctgctgtt | gtttctgctt | atccccacag | cttacaggga | ggggagtgac | 1920 |
| ccccttggtt | ttccaggaag | catcagttca | ggggcagctt | cctgctgcct | ctgttcttg | 1980 |
| gtgagagggg | cagcctcttt | ggacatggcc | cagcctgccc | cagaagagct | atttggtagt | 2040 |
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| cagatgctcc | agctcactga | agcgttctgc | cacacactgg | gctgtgagac | gggcctctgg | 2160 |
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| actgagtgcc | tgctgctgca | ggccagccag | ttccatgtgg | aaagggttgt | ggggggtttg | 2400 |
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| caataggtcc | tgacagcaca | atgatcctct | gctgggcttc | tgggtacac | taacactccc | 2520 |
| aacacctgaa | aattccccat | gtagtggccc | ttaatatcat | ttcaacacct | ttctatttag | 2580 |
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| tctaccatta | tagtatcatg | cggaatagtt | tctctgcccc | tcaaattccc | tgcattccac | 2880 |
| ttattcatcc | ctccctccat | tcccctaaat | ttctggcagc | cactgatttt | gtactgtctc | 2940 |
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| gtgggtcagg | catgcttaac | tctatgccat | ttccttagggt | tcaccctaac | cgaatcaagc | 3240 |
| tcccatacaa | ggagaccatc | caggagatcc | tgcccaggaa | ggtggcaaga | gttttctctc | 3300 |
| actggcttaa | tttttatttt | gcattgcaaa | tatTTTgtt | atcatttcaa | atccttttg | 3360 |
| gaaataaaagc | aggcaggagt | taagtaaatg | gtctgatagg | tggaaataga | gtgtgctcct | 3420 |
| cccaattgta | agatcaacat | tgctaatggg | atccctcaca | caggtggctg | ggagtggat | 3480 |
| ggataaaatct | caaaaactacc | tgggagagct | ggcacTTTT | ctacttgtt | tctaatacca | 3540 |
| acaactttcc | aaacacacac | aggagcctat | ctctccctcc | ccacccgatg | agttcatgat | 3600 |
| gttaaattaa | ttgcataatt | cacctaattg | acagtattga | cagatggccc | tgttaagagt | 3660 |
| agagtgctat | tgttgttaca | caagtaacat | ttatTTTATT | ctggcactgt | aattacaggc | 3720 |
| agtaaattaa | attaaatatt | aagcattaac | ttgaaatcaa | tagggcaaca | aatctcatta | 3780 |
| tgagaaaaaa | tgtattatgc | aaattctttt | cagaatttta | tcatcatgaa | taatggcttc | 3840 |
| attacgagaa | ctatacagca | gaggaggcaa | cagagTTGA | aagaaacata | acactccagc | 3900 |
| acattctgat | ttcagaattt | atgcaaaata | ttcttacagt | tttagtgtca | aagaggattt | 3960 |
| gctcaaaact | ccagagaagc | ctgtgaccca | ccacagcctg | gttccccctc | gccaacctcc | 4020 |
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| tagggccaca | ctgttctctc | tcattttca | ctaagggctc | cttcctgggt | gtgtcagaca | 4320 |
| tatagctgg | tctgactcac | tcacaaccta | tcgtttctt | ttttctctga | ccattgccct | 4380 |
| catcaaagtg | cccccaaaca | aacaatttg | atcagcctct | ttatgagtcc | agaatgactg | 4440 |
| ccctgctatg | gacagcctta | gctagcattt | cttaacaagg | aaaaataaga | ggccatttagg | 4500 |
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| accttgtaca ggtatattca gagacagtat aatggtggtt gtccaggggg caacctggga | 5880 |
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| ctgtAGCTGC AAAGCTACCC tgggGAAGCC ttGATGTAGC CCCTTCTTGT gaAGGTGAAA | 8340 |
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| tCTTCTCCT CTGACTATCA ACAACAAATCC CTATACTCAT ggtCAGAAGT gACAGAGGAG | 8520 |
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| gagCCAATTc ATTCCAAGTC CTAATCTTCC tagTTACAAA CACTACACAA tttATTGTA | 8700 |
| tttttttat aggtactCTG tggatCAAAG caAGTTCCA tggggAAATGA gagaAGATGG | 8760 |

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| aggcaataat | cccttcccaa | aacaaacaga | cttataaata | ggttacttcc | tactttcct | 8880 |
| aaaatcttgg | aaagttgtga | gactccctaa | tattcccaag | ggatacaagg | cctgcttccc | 8940 |
| atcttcact | tatggtaat | ttcacaagga | agggaggtca | cgggtagtct | gaaagggtgct | 9000 |
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| tgacaagtgt | gtccctccct | gccttgatgg | ggcccttcctc | agcatacaac | cttgagaagg | 10800 |
| ggaaccttat | gggatctgct | gggtggttgt | tatttgaat | ttctaagcca | gctatgcaaa | 10860 |
| aaaacaatta | caaagagcag | ccctctcctt | agctggtatt | atttacccac | attaaaccca | 10920 |
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| agtcacatat | gccccctaca | attattcagt | gtgatgctgc | agggccagct | gcaccgcccac | 11460 |
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| ggaattggaa | agataaaaca | cccagttcc | tttgagtcag | gtggtatgac | actgaggtgt | 11640 |
| gtgttctgct | cgtagttata | ctccagttgc | ccatggtggt | aaccacttg | ataagatatc | 11700 |
| ctttactggt | ttccttcct | ttcctgactc | atttcctcat | tctcttactg | gcatttcctg | 11760 |
| caatctcttc | ccaaataaaac | tactagtact | caaattcttgc | ttccagggtt | ggaggcactc | 11820 |
| cacccaagac | atatgcctac | acagcagaat | tagttcatca | aaccaagtct | ttgtctcacc | 11880 |
| ctcagactgt | ttctgaagcc | agacagacgg | ggctgaacac | ctcagaattt | ccctgagtgc | 11940 |
| ctcaaacggc | atctttcta | aaaaacctct | ttatttcact | gcttgagaac | gactttctct | 12000 |
| tacttccatc | tccctcccg | cacctctctc | tgcagtcttt | tcactgatgg | aagccacccg | 12060 |
| caaccgccc | gccctcgca | cttctttaa | tttgtctcaa | aaggctctta | agagaaaact | 12120 |
| acgcttgcct | gtctttccc | agttccacaa | ccctcagagg | gcaggtctct | gggacagcaa | 12180 |
| tggtattcct | cggaaagtca | gcatctggtg | cacagctgct | gttttgactg | tagtcccaat | 12240 |
| gtaacagggc | agcaaagttg | ttgatggttt | tccccaaagc | agtaccccg | agttttcata | 12300 |
| tctgcttcc | agactgtgct | cccttgaat | ccagaaaaat | gaagcgtttc | aatcctggtc | 12360 |
| tctcctcagc | cgtctctcca | acgcctcctt | ttttctgtc | tctttcttcc | cccagccct | 12420 |
| tcccttctt | tttggttcat | ttgcactttt | ttttttttt | ttttttcat | ctcacaaggc | 12480 |
| tgcagcaact | tgacaataca | ctaaggagcc | cttcttggag | ttgtgttgct | cctcattaaa | 12540 |

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21512-US Sequence listing.ST25.txt

| | | | | | | |
|-------------|-------------|------------|------------|-------------|-------------|-------|
| cattcagtcc | tttgagctca | ctgccttccc | ttcctaagca | tttatcacaa | ctgaaccaca | 14460 |
| cttgcctgtt | aaaaacagac | tagttaagtg | ttccagtgcc | agtaaatagc | atgagacaaa | 14520 |
| gcctggaggt | aagacctaaa | agacatccat | catgatgaag | tgatgaacac | agaatgagaa | 14580 |
| tgtggcgtgg | aggtgagctt | ggagccttaa | tatccatgtt | tatgagtcac | ttaaaggcag | 14640 |
| gctaggtggg | acttcacagt | tttctgtcaa | atcttctgtc | cctaattcctt | gtatcctact | 14700 |
| tcattcagtt | agaccttctg | ctgcttagaa | cattttctt | caagtagtga | gtactgtaat | 14760 |
| gttaacatcc | aagaaagtaa | aacaaatagt | cacctctgca | atagctcatt | aacaactggg | 14820 |
| aacagagagg | ttaatgttcc | atagctaaa | aaagtatcaa | tacaactagg | gactctctca | 14880 |
| gtacaggatg | gggtgctata | tccatattac | caatggcagt | catcccgaga | aatccaagca | 14940 |
| gccacactta | ctctccttca | gtgggtagat | ccactatact | tgtcatgtag | attagctgtt | 15000 |
| ttcactggag | acttgcattcc | catcatcctt | ctgcacacag | ttgaggtgga | ccataacctct | 15060 |
| ttttttttt | ttttttttt | tagacgcagt | cttgctctgt | cgtccaggct | ggagaacagt | 15120 |
| ggcatgatct | tggctcactg | caagctctgc | ctcccggtt | cacaccattc | tctggcctca | 15180 |
| gcctcctgag | tagctggac | tacaggcgcc | tgctgccacg | cccggttaat | ttttttgtat | 15240 |
| ttttagtaga | gacggggttt | caccatgtt | gccaggatgg | tctcgatctc | ctgacacctat | 15300 |
| gatccacccg | cctcggcttc | ccaaagtgtt | gggattacag | gcgtgagcca | ccgcgcccgg | 15360 |
| caggaccata | cctcttgagc | aggcttctct | gcaggtgctt | ggtagctggc | tcgatgggtc | 15420 |
| agatcataag | cctttcatgt | cacagaagtg | gccctgatcc | atgatcccac | aagcacacag | 15480 |
| actcagagcc | tacagagaag | atgactctgg | agatctggtt | ccctttactg | tccatctatg | 15540 |
| attcatcata | caaaggtaag | cacattccac | atttccttt | ttgaaataag | actgctgatt | 15600 |
| ttaaaaaaaat | gttaattaca | tctgctatac | tgcaaactgc | agaagttcaa | gcttaaggaa | 15660 |
| agacctttta | catccttccc | tcttccttat | acctaaaaat | taaagtctaa | catcaaacag | 15720 |
| ggggattcat | tatttaattt | gtaagataag | aaacatatct | gcatgtgtaa | gtttttaaa | 15780 |
| aagaagggag | aggaaacaaa | caactgttcc | ctgtagacta | caagcttctt | gaggtcaaaa | 15840 |
| cctgtccttc | catctgtgtt | tctacaaaag | ctacagcagg | gacaacatca | agatgaatgc | 15900 |
| agttggaggg | aatccatctg | tcttcaggct | tcgtgtactt | tccaaaggac | ctttgaatg | 15960 |
| taaaagaaaa | gcctctgaaa | ctaagactag | gctgaaaatc | tgtcttaag | gttttgaga | 16020 |
| catgccaaaa | agaaacaaac | aaaaaccact | aatgctttta | aaagaagaag | tcaaggtggg | 16080 |
| agaaggagct | tactacgtga | gttcacacgc | ttaatcaagt | gaacggctt | gtgtcaggac | 16140 |
| gaacgtgagg | atggataaat | aaccttggtg | tctgcagccc | gagcaaagat | gggagaaata | 16200 |
| ggactgtggg | cttaagatca | aacgaaatga | gaactggat | ggccttccc | cggtccccca | 16260 |
| gggctgtctc | ttcttattcct | aaggttataa | aagtttttt | gagactagct | gaataaacca | 16320 |

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21512-US Sequence listing.ST25.txt

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| gccattgcac | tccagcctgg | gtgacagagc | gagactgtct | aaaaaaaaaa | aaaagggtgg | 18240 |
| agtttagttt | gcttcattt | gcagccaacc | aggatgaact | tgggtgcaca | gatttctcag | 18300 |
| gtgagaccta | agaccctgtc | tcacctaaga | aataagaagg | acatgaatag | aaacacatag | 18360 |
| tggacaggag | acagcgaaag | gcagttctag | ttcaatgaga | gcttgcgttg | ggctgcttc | 18420 |
| attggacaag | catgccagaa | ttcttattgct | ttatgtgtca | tgcattctgtc | ctccaaggta | 18480 |
| ctgagaagag | agtcaaggaaa | gggtatagta | atgtagacct | caactgttct | tgccttctgg | 18540 |
| acaacaaggg | ataatacttc | ctagaacaat | agcctcaccc | tggcacccca | gatgtttgtt | 18600 |
| gcccattcta | tctacagtct | catggtcaat | agtagtaaca | gcctctaaca | gtaaaaagga | 18660 |
| ctcagcatac | aactgcagag | aagacatagc | agagggcacc | tgggaggcta | tgacagtgtg | 18720 |
| ttcagggaaa | aatgatccta | aaagaaaaaa | aaaacagtag | gtggctgaac | ttggggataa | 18780 |
| aaagagcaag | ccagctttc | aggagaaaag | taggtctcct | aatcagtctt | gcaggcttaa | 18840 |
| gcagtaagaa | gacggccttc | ctcaataacc | tcttcactag | aattttcaaa | acctaaacaa | 18900 |
| atatctcaaa | caatgattt | tttttgccc | aataaaacaa | tgtcatgtcc | ataaaagtaa | 18960 |
| attttgaatc | aaatctttt | cccagacata | attctgaaaa | atcttaaaac | acaaagtaaa | 19020 |
| agaaatcaga | tgcttatctg | aatattaccc | acatgatcat | tagagataat | tcttatacat | 19080 |
| ttatttagat | tcgtctctg | ccagatattt | aaataactgt | gaagagatgt | gtcaagagaa | 19140 |
| gagtaattat | acaaaggttt | ataaaaggag | atacaaagct | ttatgctcca | aatgtggctt | 19200 |
| ttagttaaa | aacctaggct | gttttagcata | accccaaata | gttctggat | ggttgtataa | 19260 |
| tatcagatct | caactagctc | taataactgc | tttgtaaccc | ctggaataat | gctcgaagca | 19320 |
| acacatgatc | ttatttgaa | gacaagttt | ccactacaca | atgatgctgg | tccacaccta | 19380 |
| cctcccactg | cattacagcg | agatgtcatt | tcccagagca | ccagagccat | ggagtagaca | 19440 |
| tcggtctgct | tgaaggactc | aacattctcc | aaattcatcc | tggattctag | gacttctgga | 19500 |
| ccatgtatc | ttgcagttcc | cacctatagc | aaaaacagac | agtgaggccc | atcatttaat | 19560 |
| tccagctgcc | tttttatttt | cacaatatac | ctgatggtgg | cccctgacac | gtgcagagga | 19620 |
| ttttttaaa | aaatcaaagt | gctgtttaa | agaatgagaa | atgcacagaa | aggtacagat | 19680 |
| agatggttat | tttttaaaat | agatgttctc | tccctgaaaa | ccctctaaag | accataaaca | 19740 |
| aagcatgcc | aaataaggaa | gtgccaaacc | ccagagctgc | cttatctaac | cccatgactt | 19800 |
| atgtcatcac | attttcaat | aacatccta | cagataacct | gagagacaat | atttgtata | 19860 |
| ttttaaatgt | ttattttgc | tttccaaaat | tgaattttt | tttattcctg | aaactccaag | 19920 |
| acttatggta | aaaataataa | ttgctatcag | tttgatcac | tttaggactg | agtcttaatc | 19980 |
| tttggttatc | ccatggcaca | ttccagtg | caaaggatat | agtacaattg | cataacatct | 20040 |
| ctactaaatt | aaattgtata | aaagcattt | cacagtaaaa | gaccaaattc | ggatcactt | 20100 |

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ataatttaa cttgtggcc atgtagttt atttgactt ttaggcctgt gctaattct 20160
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21512-US Sequence listing.ST25.txt

| | |
|---|-------|
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| agttggatgt ggttagtaag tactgtcagg aagtgggttc atgcctgagc atctatagat | 22080 |
| tttagcatct gcatagttt ttagatacg atattgttaa ttttatttc agggatgcaa | 22140 |
| gtgcatgctc gttcagcctt ccctgcctct gccatctgt tcgtcatccc ctgctttcc | 22200 |
| ttcaaacttc agcttaaatg tcactgctta agagaggcct agaaaaactt ggaaaactgt | 22260 |
| cttattttat acatttcat agcaccttat actttccta gtaacaatt cagtacaact | 22320 |
| taaactaaat gaactatgac tctaccttt gattcacat ctgtcttcc ctactcttgc | 22380 |
| catccccac ggacagggaa ctccatgctg gaaggtacca tgtcttcttc actactgtaa | 22440 |
| actgcactta gcacacagca ggtcctcaat attgccaat aaaaagacaa accattact | 22500 |
| gagtgttatac taagctcagg acattggaa cataaaaaaaaa aatgacacag cttctgcctt | 22560 |
| aaaaaaaaatct gcatgtatga catctggtaa aaacacagag cgtgccacag tttgcaccaa | 22620 |
| aatcttgct cttttcaaa ctccaacttg ttctgctctg atcagcattc aggctaccct | 22680 |
| ggcccatgg gtgacagggaa gaggagtcca tggaaaggat ctcttggac agttatctt | 22740 |
| catccaccca acattcctct tttcagtgtg catacgaatt gtagttcat ggaactgaaa | 22800 |
| tatthaatag caacaatgga aacatggccg caaaggtaaa acaagttaaa aatggaaatg | 22860 |
| ctgcagttt ttgacttgga attctgaagc aggccctgt gggctgacaa ggagagtcc | 22920 |
| tagcaccaga tatctaacta taatatcttgc tgcctcaaac tttgttcat gtgctggcct | 22980 |
| tgttgtctct ggtgaaatag tttcctttt tggaagaagg acatgaatag aaacagacag | 23040 |
| tggacaggag agagcaaaag gcagctctag ttcactggaa gcttgtgctg ggctgcttc | 23100 |
| attggcaaa catgcagaat tctattgctt tatgtgtcat ccatctgccc tccaaagtac | 23160 |
| ccattaatga gcaggcctca tgctcagatc ctagaatcat tcattaaata tatcactact | 23220 |
| gagtgtctat gatggcatg gcactgccct cagagagtac ccagtagagg acttagggca | 23280 |
| tatatacaag taagcaatat atggcatctg ggatagggc taaatgtaca atgtatcta | 23340 |
| tatattatgt gaatgtggaa aagcttagag aaacatggaa ggcacagtag caaaaaactg | 23400 |
| ccttaagtt ggtctctgaa gaatggaaa agtcagtgtat gagtgaaag agtctatgt | 23460 |
| taaggagaaa gaatatatga tctacttaag gaagagcaat tatcccatac tgaccactct | 23520 |
| gcacctgcgg aatagaaagg aaaaaaatgg gtaggtggta tggaaccaaa ctccgtgtca | 23580 |
| aaaaaggatc tttgattat tcatttgtca gtttcaccc acagtaggtg tttaaagaga | 23640 |
| aaaaaaaaaag tgatgagaat atagtccagg tagaatgagg atataaccaa attctctcaa | 23700 |
| ggggAACCA ttacctaaat gatactgata aaggagttaa gaagaaatta cttggcaga | 23760 |
| tagtaagggt atggaagtcc tcggtaaggt gtttctttt aatgaaaagc agccccaaat | 23820 |
| cattttctaa caaagagcag cctgtaaagt tgagcttcag acatagacag gcaagctggg | 23880 |

21512-US Sequence listing.ST25.txt

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21512-US Sequence listing.ST25.txt

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21512-US Sequence listing.ST25.txt

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| gtgccactgc | attttagcct | gggcaacaga | acgagaacat | ctccccctgc | ccccccaact | 29640 |
| cccccccca | aaaaagttag | ccctctcttc | ctcttcctt | tctcctaagg | gtatttaaaa | 29700 |
| taatatactt | ggcccaagag | cacagtatgg | ccctcaaaac | tagagaaatt | actctgattt | 29760 |
| ctctcttgc | aaaaagaatt | cattccaaaa | taaaacacag | atacagaaaa | gtgcataaaa | 29820 |
| caagtgtctg | gcttagtgaa | ttactataag | atcaacactc | ttgtaaccac | tggtcaggtc | 29880 |
| agaaaaatata | atttgctgg | ccacccaga | agtctgtca | tgttcccaa | ctcaatcgga | 29940 |
| gatccctccc | ttcctctaaa | aagtaatcac | tattcctggc | ttttatagtt | atcattttct | 30000 |
| tgagctttta | aacttgtttt | atcatccaag | tatgcatctg | tagtcgtctt | gctactaata | 30060 |
| tgactgaata | caaatggcaa | accttgctt | tttgcagaat | tactgtttt | aaaaaacttc | 30120 |
| ctacaataaa | aacaccagaa | tctttaaaaa | atgttaatc | tgaattaatc | aaatcatcag | 30180 |
| acaaatctac | aaagtgcctt | tataaagtac | atgaaatggt | ctgacctatt | caaatcaaag | 30240 |
| tcaatgtcat | gaaaacccaaa | aaaacacact | gtaggcaca | aacaatcaat | tttaatgtgt | 30300 |
| tgtccttgac | tggattccga | atttaaacaa | tagaccatt | aaccttgaag | aaatctgaat | 30360 |
| atggactgta | ctgttatatat | attttagatgt | atatatgtga | atgtatctgt | gtcttagtat | 30420 |
| ctgtatacac | acacacacac | acagaaagag | agtgaaagct | aagcactcac | atatatgctt | 30480 |
| catattgcag | agttcaaaga | tcttgccatc | atttctgt | cctttaaaaa | ttttgttggc | 30540 |
| atgttacata | aagaataact | tgtcacctcg | ttattctaag | tgtgcccgc | gaccagcagt | 30600 |
| catcagcatc | ccctggAAC | ttactggaaa | tgcagagtct | tagcgctgtc | ctcaactaac | 30660 |
| tgaatcagaa | tctacattt | aaagttctct | cagtgattca | tttacacatt | caagtttcag | 30720 |
| aggtaaattt | tattcttgct | aaacagttt | gcaaaaataa | agttaagttc | tttggtactc | 30780 |
| tgccatagag | atgcttcct | cctacaaaaa | atttcttagt | ggaattgttt | gcaaagctct | 30840 |
| ggtagctg | tattcagcac | tagccaatga | gaaaatggcc | catgataatt | ttctagtc当地 | 30900 |
| ttaactggtg | gaggagtgt | aatgagata | tgcttccca | tccatcatcc | tagaaaaag | 30960 |
| cacaccaatt | taggcaaaca | ataaaaaagtc | atttcaatta | aacaacaaaa | ggacagtaag | 31020 |
| ctcactagca | atgaaggatt | taatttaact | tctagctatt | gatagcactg | tttgacattc | 31080 |
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| cttgcgtgt | ttctaattcca | gtatgataat | ctctttctag | aatacccatg | agaggttagag | 31320 |
| gtgaaacctc | tgcctgaaaa | tgttatggta | gaaggacatc | attcctttgt | tatcattcca | 31380 |
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| gttcttgaca ttggAACCA ctatATCCTC taatttaggca aaaaaaggca tatatatgt | 33480 |
| tatTTTaaa agtagataag caaatataaa ttatttctt aaaaagttaac atgtttttaa | 33540 |
| aaaaaaagcat aatttgtat ggcaaaattt atattttcca caacaggtaa catgcaggag | 33600 |
| cgatttagaa tacaaaagga ctttccaaag gcaagtcattc cagatgtcca aatgggttgt | 33660 |
| aatacagcct ctggagtata cgtgggttgg aataaaaagtc aatttcacag tggttagcca | 33720 |
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| gtctcagtgg acccttctt ccattactca tgggtgttgg gtttatggaa cacatggagg | 33840 |
| ccgcagtggg agagacctga ggctgcagag gaaccacccg aaccttgcta cagcaccagc | 33900 |
| agtatgggtc cgactgctt cttggccact catatccagt ggatggaatt tgagacagcc | 33960 |
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| tattcacaac cagaaagcac atctggcctc agtgcagctt tgtttacttt gctacttagg | 34080 |
| aaaaaaaaaaa atcttgaaaaa gcgagttgct tttgccttaa ttcagttcaa atacattcta | 34140 |
| agcttccttc aactgagtca cagtgtcctc tatcatgcaa aatctttatt atttccttgg | 34200 |
| ccagacatag ggccatattt atgaattcca agtgtgctt ctaaccaagg ctggttcaca | 34260 |
| acaaaaagct gcttcagctc tgagtcata cctcaaataa ctgatttctc ttctcaggaa | 34320 |
| tgagactagc aactttatc cataattttc ttcctttctt aacaactttt ctcaaccata | 34380 |
| tttccacact tatttttct tctgcattta gaccagaaag taaatctggt ttgtttctt | 34440 |
| tgaaacaaaa atgcacagct ggaaagccag ctatttttag gcgtgagtgc acagttccaa | 34500 |
| ggcagcatac ctaaaatccc ccagagctac caaaacacca tttactctt tcatttctta | 34560 |
| catgcaagaa ctaatcattt ccccaagaag ccagctccct ggtgttggag ctgaacaaac | 34620 |
| ataaaatgag atttgggaga aagagggcag catttctaag acttccctta ctcggaaaac | 34680 |
| aacggaagtc aacaaaatgc tcaatgcata cgatcagttac acagagtggg tttgctggat | 34740 |
| ggtgtaaagc aacgacatta aggacacaat gggccagag ggaaccagct ggctgagatg | 34800 |
| ttctgctagc aagtttaca tagacaggaa accgcgtgtc tgatactgta aaaaaataat | 34860 |
| ttgtcttctt gccagagata ggcttagcaaa ccaaaaaggc tgtttctact taaaagaaat | 34920 |
| gctacaacaa tgagagagga aggaatgaaa ctttgggtt acaagaagtc ttcttctctg | 34980 |
| ccccctcttc aacatctcag gtttagagggc acacatcacc acactaaatg ctaaaggctg | 35040 |
| cacatagctt gcgagtcagc aacgtgcacc actgggcata catcttatgg tctgcttccc | 35100 |
| tatTTAacca catagattga actttgagtc agaagtggtt actcaagtcc tggtttctaa | 35160 |
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|---|-------|
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| tgtcttcttg ttttggaaa tattaaggga tagtcccaca gataaactaa tacaaataca | 37260 |
| ataaaactaac atgaacatga tcacagaaac aaaagaatg cttaactgaaa aggtgtctga | 37320 |
| tttctccac attaagatcc acaccagaac aacatttg gagtatattt aaaaaataaa | 37380 |
| ctattgtcac tgctgaaaaa gacccacatg ccactggaga gctctgttac acaagctgac | 37440 |
| ttagttaagt atatttagtt catttccaaa tgaccaggct ttagacccaa tttattcctc | 37500 |
| atgggccat tagtcaggg agttaccagc atgaagttaa taagacctcc atctctgggt | 37560 |
| ccatccctac ctggtgagtt cacaccagt cttctcacac ttcagtgtgc aaacaaatca | 37620 |
| ctgaaggcct tgttacaggc agatgcta at gcaataggcc ccagaggacc caaggttgc | 37680 |
| cagttcta at aagctcccg gtgatcctgc tgctgctggt ctagacactt tcagtagcaa | 37740 |
| cggtttatac cgttcagaag aggtatgtgt cttgggttagt agtgttctcc ttaatcaggg | 37800 |
| gaagaagaag taagaaagga tgcaccaact gtgtgccagc cactgtgctg ggctccca | 37860 |
| agcatcatct ccttaaatcc cacaacaacc cacaggtaacc atttatcagc actacttggc | 37920 |
| caataatggc gcagtcattc aaagagaagg cttgtggcc caaagcaagc tttccatgga | 37980 |
| aaaaatgaag aggaaatgaa tccctttggc aagtacagaa ctgcgattac cctaattact | 38040 |
| tatgtgaaag gcacttgtgg gttgtttcag ttttatttag ctgcttcctg ctgtgattct | 38100 |
| gagtcaaaac aggaacaacg tgtctaattt gtaatattat ccaacaatga cagggatgt | 38160 |
| gttagcttg attagaaatt cttagactcag catgctcccc ttgcctctgt gaaggcatgt | 38220 |
| ggagaaaaag agaaactgga tgaaacaggg attaaagcaa agtgagcccc tccaaaacct | 38280 |
| tgtggtgtga tatgttagta tccgaatgct cagttatgc accacagtca gcactcaact | 38340 |
| acaaaacttc agtgttagaa cagaccgaag gctacacagg cctgggttcc tgcattcaga | 38400 |
| caagcacaag tcaccagccc tctataaaaaa gcccaactac tgctaacagc taacagacag | 38460 |
| tgacatgtca ggcaacgttg caagcacttt acatgcatta atctactcaa tcctcacaac | 38520 |
| acctccacc cgctttgtat ttccattta cagatgaaga gactgaagca tggagatgtc | 38580 |
| aagtcaactgg cccaaacatag cagagcta at aagctgtaga ataagccta aatccaggag | 38640 |
| atctagctca ttcttgagta ttacactaga ccgtttctct cttacctaaa ccagcagaaa | 38700 |
| tcacctttc gctcagtgtt ccacaaatta aatgtctgac tgcacttgaa aaccatttat | 38760 |
| gaaatgaata aaactgagtt gttgtgtttg attcttacag gttcagttag agatcaataa | 38820 |
| ccatatcatg tcttgcaaa gtggggatgt cattggcaag taaacagcat ggctattgc | 38880 |
| tcaggattcc ttcctctcct acctcctgtg ctgctgcctt cagtcctggt gcccattcagg | 38940 |
| tctcgtctga ctgacagctg tcaccaggcc atccatcatg accaatccaa acaacttctc | 39000 |

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gctcatagta aaatataaaa tgcataat atttgacaa agatattcaa tgataaaaata 40800
tagatccaac ttgcaggcca tttatcaact tttgtcctt tggagggaaat aaacttgcct 40860

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|---|-------|
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| ctgggtattc tactgtcaga gattaattcc tttggcttag cctaggcctt ctttaaaag | 40980 |
| gtgatctact tgaagaaagc tgacctggta agtcagaata tcaggtgtta ccatgttca | 41040 |
| tgtgattaaa ctathtagat ttccctccta actcaaatca cataaagaac atgaggccaa | 41100 |
| gcacagtgg tcatgcctgt aattctagca ctttgggagg ccaaggcagg ttattcacct | 41160 |
| gaggtcagga gttcgagacc agactgacga acatggtaa actcgtctct actaaaaata | 41220 |
| caaagattag ctgggtatgg tggcacactc ctgcagtccc acctactcag gaggctgagg | 41280 |
| caggaggatc acttgaacct gggaggcaga gttgcagtg agccaagatc gtgccattgc | 41340 |
| actccagcct gggcgacaga gtgagactcc gtcaaaaaaa aaaaaaaaaa aaaaacaacc | 41400 |
| agaaaaagaaa acgagagaaa tggaccattt acaggatgag gatgagaaca taggaaggaa | 41460 |
| gagtaatctg gaaagcgttg ccctgacaag atgtgcattgc ctgccttcag ttcactgaga | 41520 |
| agttggctg gggatgttg gacaggaaga tagggagaat ggcagtaggt gaaggacaca | 41580 |
| ggaagagaac aagctggatc tgcagtgcata ctgagcacca aacacgaaac acgaggacac | 41640 |
| atagcttctc gcaggtggaa tgcacatggc cgccagata gggtagag ccagcatttg | 41700 |
| tatttcaaaa agattttttta attaaatcag acctattgtt gactaaacta acatttacac | 41760 |
| taccacgctg gtaaaattaa aagacttac cattccagt gttggagaag gtacacggaa | 41820 |
| atccatatgc ttacatcctt ttcaggagga gaatagtttta gtatgtcttta ttcaaattta | 41880 |
| aaatacacat atttctaatac tagaaatttc acttctggca atctgccttg cagaaatatt | 41940 |
| agcacaaatg catgagatat ttttacaaag atattcaatg tagcattaag tggaaaaact | 42000 |
| gaagacaatc catcaacagg gacatgataa gatccatcg gggagataat atgaaattcg | 42060 |
| agactaaatt aaaagatgta cagtatatct atgtgttcta tcttggtag aaggaattgt | 42120 |
| aaaagtggtt gggataaaaa aagtgttgca aaataatatt tatagtatga tcagatagtt | 42180 |
| gtactgaaag atggatgagt ggtggagg atggacagat ggatgaaagg agggaaagag | 42240 |
| aaaggaagac agggagagat tggagagag gatggagtgg gagataatat gaatgaatga | 42300 |
| tagagacgtg tgtgcattctt atacattgtc aatacagatg atctgttgc ttggagtga | 42360 |
| ggggaggacg aaaatgtact ttcattttta attttcacac actgttggat tgttgaaat | 42420 |
| ttttgatgac gagcatatac tactttgttta attaaaaacc actgaattct cttcttatta | 42480 |
| aaaattgagg gaatagtgtt tgccttcctt tcaagctgag taaacgctga acttcaaaga | 42540 |
| tggaggctag tatctaatact actcttctcc tggctctagg ggtttttt ggcttattat | 42600 |
| ttcctctctg tattgcaatg tttctctcaa atggatcga tgacaagtac cctaaagaca | 42660 |
| aatcctggaa ctatgtacaa gaaacaacat cagttataaa gaaagtcctc ctccaaagatt | 42720 |
| aaacaacccc atccaaatct ttagaacaat agttaccaaa ttttagctgc acagaattac | 42780 |

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21512-US Sequence listing.ST25.txt

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21512-US Sequence listing.ST25.txt

| | |
|--|-------|
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| tgatcattt ataatcatga tacgttata tacccacata aacgtacaca tacatgcaga | 48540 |
| gaacaccctt agaaactaca tttaataatc gaaagagaga tggctaaag gaaaggaaa | 48600 |
| tggaacaggt gttcacattt aggagacaga gatacactga ctgtgtgtac tatgagaata | 48660 |
| cattatgtaa aaagggaaa agaaagaata acttctaaa aggcttgctt accatacagc | 48720 |
| cacacagact tcctgtggct tctcacagat ggaggtgatg ctgcagttgc tcacgcagga | 48780 |
| tttctggttg tcacaggtgg aaaatctcac atcacaat ttacacagtt gtggaaactt | 48840 |
| gactgcaccg ttgttgtcag tgactatcat gtcgttatta actgaggaga gagaaagata | 48900 |
| tattaaatga ttatccaact gccaggcagc ctgccaatga attcctgaag atgttatgca | 48960 |
| atttcaaatg aacttgatgt catgagaatg aatctgaaga aaggcaaat aattcattca | 49020 |
| catcagatta gaattatctg gtgtatgcaa tttgtataaa aatccattgt accgtggta | 49080 |
| gggggtggta ggggttgggg tgggttagta gccatttgct tttgtcaatg gttgtcataa | 49140 |
| ggtccacttt ctacaaaat cttatcattc aataaagaaa cctagatggg cccactgcat | 49200 |
| agtacggagt gctgggccca caaataaaag tacccttaag gaaattatag tttagctgg | 49260 |
| gaataagaca ggaaacagac caagtcaggg tgacccaaaa tagagggcag cacagaggat | 49320 |
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| ctctgtttta tttattgtct gcacaaacta tctgcacgc atactgcta ataattatc | 49860 |
| cacaaaaatg taagctccat gaaactttct ccacccact tacctactat atctccagtg | 49920 |
| ccaggaagag aacccatcac atagcaggca tacaaaaatg tttattggat aaatgagtga | 49980 |
| acacaggatg aatacaagga gtccatgttt ggcccttgat gcccattgtt ataggataca | 50040 |
| gaacttcttc actcagatta gagaggaatg tgattataaa tgtgatattc attcacattt | 50100 |
| attcaataaa atatggaaga cagactattc tttgcaaat acaggctgca aactaggggc | 50160 |
| agttcaaata aaggtgttaac accccattcc ccattttctt cctcaatgag atgggtatga | 50220 |
| tgttaagac atgagttgg acagtcagtg aagtatgaca aggctactag gcactcaacc | 50280 |
| agcaaacatg aattaatact tacatgctag actaagaaac attaagcact tagaccgcat | 50340 |

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21512-US Sequence listing.ST25.txt

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| ttatggacta catcaaccgg ctctcttgcc ctcaagcttc cagtaagttt ggccaatggg | 56160 |
| gtgacccagc ggtatctaag ggaagcaatg aggagcacat ttaaggtatc tgtgttctgg | 56220 |
| ctccctctgt ggaatcttt ccagctggcc aagtccctca cttggaggc acaggttctc | 56280 |
| ttcaggaggt catttccaag atttacttct tccctctcct tgccactttg ggcctagcaa | 56340 |
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| ggttcacgcc atttcctgc ctcagcctcc cgagcagctg ggactacagg tgcccaacac | 56700 |
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| caggctttag ccaccacgccc tggcctgtta ctgctttta aaggaaatac acacacacac | 56880 |
| acacacacac acacgtgcac acacatgcat gcttatatat ttagacggc tctgggagta | 56940 |
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| agagataagc tcaaaagcat caatttcct tttcatgcac atgttttgc aataactata | 57300 |
| tagttttaa aacctgtcaa gaatgacata atcaataactc taaaatctt tagagcagga | 57360 |
| aataattcta gtaaaatacc tagtacgggc cgggtgcggg ggctcacgcc tgtaatccca | 57420 |
| gtactataca cacacacaca cacacacaca cacacacaca catacatata | 57480 |
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| ATACTCTCCA CACAACAAGA CATCTAAAAC AAACACCAGG TTGGTCCCTA CCCTCCTATG | 57600 |
| GCTTATATTG TAGTTGAGA GGCAACATTA ACAACGGCAA CCTCATGTGA ATCAGTTACT | 57660 |
| TGCCTTAAA TGCAAACATG AGGTCAAGAAA TGGAGACAGA GCTGATAACGG GAAGTGTGTG | 57720 |
| TGTGAGTGTG TGTGTTATG CATTATGTG TGTGATTCC TCATTGGAC TTGTTCAACT | 57780 |
| GAGGGAATT AGCTTGTAG GTTGAGTT CACTAGCATT TTGGCTCATG AATTAGTAG | 57840 |
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| aaaactggtt | ttctaattcc | acttaaagaa | ataaaaaaga | cttgaaaca | gtggcccac | 59940 |
| accatccaa | gacaacagtc | agctgactgt | gagctgagat | gctccttgc | agaaagtctc | 60000 |
| tgtgtcctca | aatttgcctc | ctccctgaca | ctccttcatg | tcacctactc | ccctgccagg | 60060 |
| cccctgtggc | cacctgaatg | tttacaatta | atgattattt | cacctgcaca | ttcaattctc | 60120 |
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| aggacatcta | ctttagaaat | cagatctatg | tgatgttaat | aattattatt | accatgatca | 60300 |
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| atttacttat | cacaaccacc | atgcaatttt | gtcattaaca | ttttatagat | ggagaaatta | 60420 |
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| caaagccaa | ggtgacacac | aagccctcat | ccttcctgat | actccacaat | gaaatagata | 60540 |
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21512-US Sequence listing.ST25.txt
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| acatggttcc acatcgaaat catctggga tctttaaaaa caataatgat gccaaagtcc | 67560 |
| taccccaggg caatgagtca gaacttctag gtgcttggct caggcttgg aattcttta | 67620 |
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| cactggaaaa atcaccctga agaacactgg tggaaaacag aaagaagtcc acaccacagt | 68820 |
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| aatagctggg actagaggca cgtgccacca cgcccagtta atttttgtat ttttagtaga | 69180 |
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21512-US Sequence listing.ST25.txt

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| gcagttagtt cgatataaaaa atgggtcctt gggccggac acgatggctc gtgcctgtaa | 75120 |
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| aaggatgact gggaaacag actggtaaa aactgactca ttttagttgac ttgctaccag | 75540 |
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| gaagtgagaa agtagaatga acaaaggcct aagagaatag aaatgtattc taacaatata | 76080 |
| aattataaaa ataaaagtaa gagtgcCcag gggattttag attgttagat tattttataa | 76140 |
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| tgagcgtagt agaatgagac gcaaATCCGA TATGTTAA CAAGGTAGTC ACTCACAGCA | 76320 |
| aaagttgaaa gattcctagt ctacgctaAC AAGTGTCTGC AAACCTACA GAAATGCAAT | 76380 |
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21512-US Sequence listing.ST25.txt

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| caataagaat ctatctactt ccaggaacct gaaaagtcat attttcaga cctgaagagt | 84000 |
| tattgtgcac tttacagttt tccccaaaag agtcatttct taattttgat catttagaa | 84060 |
| gagtgaatct attaagtcaa aaacgaagaa aaaaaaactt tctatttctt agtcaaattt | 84120 |
| gttctttat ttaaatcctt tgcatactac taaacagaag tacagaagct actaaacaga | 84180 |
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21512-US Sequence listing.ST25.txt

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<212> DNA
<213> Homo sapiens

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| catgatggag agaacggtaa ccatgaggaa agcttcttgg agtaaagcac tcctctctcc | 960 |
| aatgcagagg gtaaaaactat taacatataa gcaaaaagaaa cttgggctaa ctgagaccct | 1020 |
| taaaggagtt ccccttagt ccaataaaag gccaaactca aatcttaaca ccagataagg | 1080 |
| tagtcaaaat catattatat acccagagaa tgactgctt aatggacatt tcttacaagg | 1140 |
| gaccttggtt aggtgcagat ttaattccta gactgggtcc aggtaggcag tggaaagagc | 1200 |
| taatgtttac agtgagaagt gaggcagctt tgtaagtgtc tccacacctt cacattttgt | 1260 |
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| ttgaaatcct cttcatcagg ccaaactgtg cttgagcaat caggagccca gaaagatgga | 1500 |
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| gagggagagt ttctaaacta gccccccaga tttggggctt ggagctaaa tgaaaagtcc | 1860 |
| aggagaaata agggcacaca ggaaccccg gAACACTGCTT CCTCAAACAG TGCCACTGTA | 1920 |
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| tgcaatgtgg tcatacgctgg ctgtgagaca tggagcctct ttcctcatgc aaagttcact | 2040 |
| gttttacagt cagagaacca ctgcattgtt gattgtcaaa tgctaattgt gtcatgggtc | 2100 |
| ctttccttct ctgcttggtt ctggagttct ccaataaaac caatttcctg ggaatatttg | 2160 |
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| tctagtgtta tgTTctcgTC attcttctc catacagCCA cacagACTC ctgtggCTTC | 4020 |
| tcacagatgg aggtgatgct gcagttgctc atgcaggatt tctggTTgtc acaggtggAA | 4080 |
| aatctcacat cacaAAATTT acacagtGT ggAAACttGA ctgcaccGTT gttgtcAGtG | 4140 |
| actatcatgt cgTTattaAC cgacttCTGA acgtgcggTG ggatcgtGCT ggcgatacGC | 4200 |
| gtccacagGA cgatgtgcAG cggccacagg cccctgagCA gccccCGACC catggcagAC | 4260 |
| cccgctgCTC gtcataGACC gagCCCCAG cgcaGCGGAC ggcgcTTCC cggacCCCTG | 4320 |
| gctgcgcCTC cgccCGCGC CCTCTCGGA ccccGCGCCG ggccggcAGC gcagatgtgc | 4380 |
| ggGCCAGATg tggcgCCGC tcGCCAGCCA ggaggGGGcC tggaggCCGG cgaggcgcGG | 4440 |
| ggaggCCCCC ggcggCCGAG ggaagCTGCA caggAGTCCG gctcCTGTCC cgagcGGGTG | 4500 |
| cacgcgcGGG ggtgtcgtcg ctccgtgcgc gcgagtGACT cactcaactt caactcagcg | 4560 |

21512-US Sequence listing.ST25.txt

ctgcggggga aacaggaaac tcctcgccaa cagctggca ggacctctct ccgcccgaga 4620
gccttctccc tctcca 4636

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<220>
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<400> 3
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<210> 4
<211> 20
<212> DNA
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<220>
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<400> 4
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<210> 5
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<220>
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<400> 5
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<210> 6
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<220>
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<400> 6
gcaacagcta ttggatgg 20

<210> 7
<211> 20
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<400> 7

21512-US Sequence listing.ST25.txt

20

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<220>
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<400> 8
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<210> 9
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<400> 9
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20

<210> 10
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<220>
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<210> 11
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<400> 11
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20

<210> 12
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21512-US Sequence listing.ST25.txt

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<220>
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<210> 14
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<220>
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<400> 14
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20

<210> 15
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<220>
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<210> 16
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20

<210> 17
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<210> 18
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21512-US Sequence listing.ST25.txt

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20

<210> 19

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<223> antisense oligonucleotide

<400> 20

agcctctttc ctcatgcaaa

20

<210> 21

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<220>

<223> antisense oligonucleotide

<400> 21

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<400> 22

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<210> 23

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21512-US Sequence listing.ST25.txt

<223> antisense oligonucleotide

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<400> 24

atgctactgc agccacactg

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<210> 25

<211> 20

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<223> antisense oligonucleotide

<400> 25

ccttctctgc ttggttctgg

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<210> 26

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<223> antisense oligonucleotide

<400> 26

ccaggagaaa taagggcaca

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<210> 27

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21512-US Sequence listing.ST25.txt

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20

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24

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<400> 30
cagcccccg a cccatggcag acc

23

<210> 31
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<400> 31
cagcccccg a cccatggcag ac

22

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<220>
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<400> 32
cagcccccg a cccatggcag a

21

<210> 33
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<220>
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<400> 33
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21512-US Sequence listing.ST25.txt

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| <220> | |
| <223> antisense oligonucleotide | |
| <400> 34 | |
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| <210> 35 | |
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| <220> | |
| <223> antisense oligonucleotide | |
| <400> 35 | |
| cagcccccga cccatggc | 18 |
| <210> 36 | |
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| <223> antisense oligonucleotide | |
| <400> 36 | |
| cagcccccga cccatgg | 17 |
| <210> 37 | |
| <211> 24 | |
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| <220> | |
| <223> antisense oligonucleotide | |
| <400> 37 | |
| gcagccccc acccatggca gacc | 24 |
| <210> 38 | |
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| <220> | |
| <223> antisense oligonucleotide | |
| <400> 38 | |
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21512-US Sequence listing.ST25.txt

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<400> 39

gcagcccccg acccatggca ga

22

<210> 40

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<210> 41

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<400> 41

gcagcccccg acccatggca

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<210> 42

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<223> antisense oligonucleotide

<400> 43

gcagcccccg acccatgg

18

<210> 44

<211> 17

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21512-US Sequence listing.ST25.txt

<223> antisense oligonucleotide

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<400> 45

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24

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<400> 46

agcagccccc gacccatggc aga

23

<210> 47

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<400> 47

agcagccccc gacccatggc ag

22

<210> 48

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19

<210> 51
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agcagcccc gacccatg

18

<210> 52
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gagcagcccc cgacccatgg cag

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<210> 54
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21512-US Sequence listing.ST25.txt

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<210> 57
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<400> 57
gagcagcccc cgacccatg

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<210> 58
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<400> 58
tgagcagccc ccgacccatg gcag

24

<210> 59
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<400> 59
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<210> 60
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21512-US Sequence listing.ST25.txt

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<210> 61

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21

<210> 62

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ctgagcagcc cccgacccat ggc

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<210> 65

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21512-US Sequence listing.ST25.txt

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<210> 66

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<400> 67

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<400> 68

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<210> 69

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<210> 70

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<220>

<223> antisense oligonucleotide

<400> 70

21512-US Sequence listing.ST25.txt

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<220>
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<400> 71
ccctgagcag ccccccaccc atg

23

<210> 72
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<400> 72
ccccctgagca gcccccgacc catg

24

<210> 73
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<400> 73
atgtgaagat gggcaagacc

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<210> 74
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<400> 74
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<210> 75
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<400> 75
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21512-US Sequence listing.ST25.txt

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<210> 77
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<400> 77
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<210> 78
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<210> 80
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<210> 81
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21512-US Sequence listing.ST25.txt

<213> Artificial sequence

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<400> 85

cacactggtc cagcaatgac

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<210> 86

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21512-US Sequence listing.ST25.txt

<223> antisense oligonucleotide

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<210> 87

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<210> 92
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<400> 92
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<210> 93
<211> 20
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<400> 93
ggagagttca ggcaaagctg

<210> 94
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<213> Homo sapiens

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| tgtaaggcta gctgctccat tggcatacca acattctctc ataatttttag ccattactct | 120 |
| caaggcttca cagctctgcc atctgtttgg gatatttggc cttaacttct gttcacaaac | 180 |
| aactttctc atttcttcaa ctgatgggtc agaaggtaa agatcataat aaggcagttg | 240 |
| gtaatcttca tgaattccac caatgaaaca tcgtcgagca atttcccaga atactaagcc | 300 |
| cattgcatac atgtcagcac gtttgaagga ttcaaaatgt ttcatattta tggaatcatc | 360 |
| gagaacttca gggccatgt accttttgt tcccactctg tggtttggag caatatcaat | 420 |
| ggtatctgtg gctgaatcat gtcttactgc cagtcctaag tctgcaatac agcaagttcc | 480 |
| attcttctt accaagatat tcttgattt caaatctcta tgagcaatgg ctggcttcc | 540 |
| ttgggtacca acaatctcca tgtgaagatg ggcaagaccg ctcggcgtgg acagagcaag | 600 |
| ttttatcatt cttccacag taactgtgt tctgtttaag taatcaaaaa gggatccatg | 660 |
| ctcatgataa tctgacacca accagagctg agtccaagta ccattgtctt tattgtctgc | 720 |
| tgcataaat cccaggatgt tttcatgacg taacattaca gtttataaaa tctctgcctc | 780 |
| acggaaccac gaacgttctt ctctagagga gaatatctta acagcaactt cttctccccg | 840 |
| ccactttcct ctccaaactt ctccaaatcg acctttgcca atgctttctt gtaacacaat | 900 |

21512-US Sequence listing.ST25.txt

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| catatcataa attaagtctt | tcaacgtagt accctctgaa ataaaaggc gatctaattga | 1020 |
| agggtcctct tcatttggca | ctcgatggtg aatgacagtg cggttgtggc agatataagac | 1080 |
| catcaacatg agtgagatgc | agacgaagca cactggtcca gcaatgacag ctgccagttc | 1140 |
| cacaggacca aggccaggtg | atgactttac agtagttgga agttctattt tattgcaatg | 1200 |
| gtcctgattt cagcaatatg | ttgttagtcac agaccagtt tttgaagagg gtgcacatac | 1260 |
| aaacggccta tctcgagggaa | ttaagtcaat ttcagctata cacatgctgt tgtgtataac | 1320 |
| tttgtctgtg gtctctgtga | cagagacaaa gcagagccca tctgtcacac aagtaaaatt | 1380 |
| gtctttgtta cagaggtggc | agaaacactg taacgccgtc gccccggga gcagcgccgc | 1440 |
| cgccgccgccc gccgcccggc | ccagcacgag gaggagcagc cggggacgac gagcagcgac | 1500 |
| cgccgcctcc at | | 1512 |

<210> 95
 <211> 2308
 <212> DNA
 <213> Homo sapiens

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| cacagaagtgcacttactgtatagtaca atcccatttt gaaggcatgt | aatgttctga | 120 |
| ataagtgaaa gaacaataat agtatacaaa atacaattgc atgaattatgttc | cactata | 180 |
| ctatatgagg tcatttttag actcaagata agagtttat aagtgttagt | tttaagatcc | 240 |
| tggaaaaactatagaacagta cattcaaagt ctgaatcaag gaaactctag | tggttcagaa | 300 |
| tcctctgaga atgtactaac caggagtaaa tcactttctt tagtaataag acatgtttca | | 360 |
| ttgttaattca gcaatccaac tcctttgccc tttaagatga tctccagcac | agcagagttt | 420 |
| cctaaagtta agaccagcaa tcatctttt aaaaaacaag ttttgttaat | aaaaaataaaa | 480 |
| ggtagactac acatTTCTG tcctggaaa gaagcgttca tagtcacag aaaggaccca | | 540 |
| catggctgtt tcctgggtcc aaagaaatcc tggaaagttt ttaattgact ttattacact | | 600 |
| gctgcaaaag gaagcaatat cttctgttc cctctcagtg aggtagaaca attgacctcc | | 660 |
| caaattaaaa cccaggagca gatctgaaga aaaaaggaga gttcaggcaa agctgttagaa | | 720 |
| ttacattttg atgccttcct gttgactgag ttgcataat gtttcttaa tccgcaatgc | | 780 |
| tgtaagccta gctgctccat tggcatacca acattctctc ataatttttag ccattactct | | 840 |
| caaggcttca cagctctgcc atctgtttgg gatattggc cttaacttct gttcacaaac | | 900 |
| aactttctc atttcttcaa ctgatgggtc agaaggtaca agatcataat aaggcagttg | | 960 |
| gtaatcttca tgaattccac caatggaca tcgtcgagca atttcccaga atactaagcc | | 1020 |

21512-US Sequence listing.ST25.txt

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| gagaacttca | ggggccatgt | accttttgt | tcccactctg | tggtttggag | caatatcaat | 1140 |
| ggtatctgtg | gctgaatcat | gtcttactgc | cagtccctaag | tctgcaatac | agcaagttcc | 1200 |
| attcttctt | accaagatat | tcttgattt | caaactctca | tgagcaatgg | ctggcttcc | 1260 |
| ttgggtacca | acaatctcca | tgtgaagatg | ggcaagaccg | ctcgccgtgg | acagagcaag | 1320 |
| ttttatcatt | ccttccacag | taactgtgta | tctgttaag | taatcaaaaa | gggatccatg | 1380 |
| ctcatgataa | tctgacacca | accagagctg | agtccaagta | ccattgtctt | tattgtctgc | 1440 |
| tgctataaat | cccaggatgt | tttcatgacg | taacattaca | gtttgataaa | tctctgcctc | 1500 |
| acggaaccac | gaacgttctt | ctcttagagga | gaatatctta | acagcaactt | cttctccccg | 1560 |
| ccactttcct | ctccaaactt | ctccaaatcg | accttgcca | atgcttctt | gtaacacaat | 1620 |
| agttctcgca | attgttctct | gaacaagcaa | tggtaaacct | gagccagaac | ctgacgttgc | 1680 |
| catatcataa | attaagtctt | tcaacgtagt | accctctgaa | ataaaaaggc | gatctaatga | 1740 |
| agggtcctct | tcatttggca | ctcgatggtg | aatgacagtg | cgggtgtggc | agatataagac | 1800 |
| catcaacatg | agtgagatgc | agacgaagca | cactggtcca | gcaatgacag | ctgccagttc | 1860 |
| cacaggacca | aggccaggtg | atgactttac | agtagttgga | agttctattt | tattgcaatg | 1920 |
| gtcctgattg | cagcaatatg | ttgttagtcac | agacccagtt | tttgaagagg | gtgcacatac | 1980 |
| aaacggccta | tctcgagggaa | ttaagtcaat | ttcagctata | cacatgctgt | tgtgtataac | 2040 |
| tttgtctgtg | gtctctgtga | cagagacaaa | gcagagccca | tctgtcacac | aagtaaaatt | 2100 |
| gtctttgt | cagaggtggc | agaaacactg | taacgccgtc | gccccggga | gcagcgccgc | 2160 |
| cggccgcgc | gccgcccgcg | ccagcacgag | gaggagcagc | cggggacgacg | gagcagcgcac | 2220 |
| cggccgcctcc | atggtcccgc | cggcaccgc | tgtggccgg | cccggcccg | ccgcgcgcgt | 2280 |
| gcctcacc | cccc | agcaaacc | tc gc | cc | 2308 | |

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<211> 48775
<212> DNA
<213> Homo sapiens

<400> 96
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atttatctgc agttatcgac agtaatcatg atccatccca ctttttaagt ttctttcatt 120
ttcaatata gccaattgtg gtttatcaaa ccattccctag ccaaaaaagg aattaactgc 180
agtaatacgt aaagtcaatt tagaactaaa ctccaacttt aaaaaaattc cctgattcat 240
caaaagtaca ttttatccac ttaggttaaga aaagtataat tgtaactcaa tctttgattc 300
aataaaaaat atttcagca aaagtggata accttacatg aaagtgagaa atcatgtatt 360

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| | | | |
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| acaacttaa atcagacaac | tttggtata ttctaaaaat tatataaaaa | tagtttagt | 420 |
| gataaaatgc attggcccc | tggattcat aaagcagatc | tggtaggctt agaaatggcc | 480 |
| caaaaacaac aacaaaaaaaaa | aaaaaacaaa aaaaaaacc | ccacaaaaaaaaa agtacctgat | 540 |
| cacagaatta gagattatta | ttaaacaagt aatacaacac | aactataaaa acaaacctct | 600 |
| caaactcatt cattgcttc | aatgaaatta tggtaactac | agaaaaaaaaac tcaactttgt | 660 |
| agtcaaaata gtaacctcta | agcattttc ccatgatgtt | tttaaacaca tgaaattgac | 720 |
| actaaattcc tatgtatat | gtcactcatt ctaaaattac | tttggttta agatcaaata | 780 |
| gtcttcaaa tttattctac | gtataagaga taagacatta | tcagaatgca actcattcag | 840 |
| tgtaaatggc cacttctct | tcctgaccaa aatactgtat | gggttactct gaccctgtat | 900 |
| cggggaactg atagcactat | aaagtcgaag tctgcctca | gagctatgtat agtttttct | 960 |
| cccctcagaa taagatcaca | gtgataaaag gacttcgaaa | actgtaaaag ccctgcagag | 1020 |
| acttcatagc attggaagta | aaaaccagtt attataagct | agtttcaact taatgtaa | 1080 |
| agaccatgac aagttgctt | tcaatattt accaaagaca | tctgtaaatg gagaaaaacc | 1140 |
| tatactcaga atgttctta | gctaccacct ctcccaagta | acaagggtgc actgaatgca | 1200 |
| ttacataat tacatgtaa | cagttgcaat gtacgcacac | ataaggaaac actgaattaa | 1260 |
| aagctgcctt cctcaaagtg | tagtgagacc tcaaaaccac | actagctcta acctcagtt | 1320 |
| caaagacaga ggatccac | aacgttact cctacataca | taacaaatgt gactttctt | 1380 |
| cacatctgtt atctattcaa | attattaact accttcgcct | tcctagaaaa aggcttatt | 1440 |
| ttaatatta accatattct | aattttaaat gtaattcatg | tctaaaaaaa taagtcttt | 1500 |
| aacagataaa gaaaaaaaaatg | gcttacagaa taccacataa | ctttcacaa gcagctagac | 1560 |
| agactttccc ttttagaaaa | attagctgt atgctacaaa | tattaaagta ctataagcat | 1620 |
| ctagagtgcc acttgattt | ttaaaagtat acttagacaa | cacaattaaa atgaaaaagc | 1680 |
| ttgatgtgag aatattcaa | catgaccatg ctaataattt | actaattaaat gccacttcat | 1740 |
| ttcttttagtg gcttaagcac | attttggtag gagaaggca | tttcagaat agaataccaa | 1800 |
| atgacataacc aaaaaaacc | ttccaaaaac aaaacagaaa | aagttgggt tacccagata | 1860 |
| aataagctt ttgaattcaa | acactatagg tttiacata | gagactttca gcaattctac | 1920 |
| tcatttccat tagaaagaca | cagaagtggc acttactggt | atagtacaat cccattttga | 1980 |
| aggcatgtaa tttctgtat | aagtgaaaga acaataatag | tataaaaaat acaattgcat | 2040 |
| gaattatgtt cctcactact | atatgaggtc atttttagac | tcaagataag agtttataa | 2100 |
| gtgttagtt taagatcctg | aaaaactata gaacagtaca | ttcaaagtct gaatcaagga | 2160 |
| aactctagtg gttcagaatc | ctctgagaat gtactaacca | ggagtaaattc actttcttta | 2220 |
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|--|------|
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| ttgttaataa aaaataaagg tagactacac attttctgtc ctggaaaga agcgttcata | 2400 |
| gtgcacagaa aggaccaca tggctgttc ctgggtccaa agaaatcctg ggaagtttt | 2460 |
| aattgacttt attacactgc tgcaaaaagga agcaatatcc ttctgttccc tctcagttag | 2520 |
| gtagaacaat tgacctcca aattaaaacc caggagcaga tctgaagaaa aaaggagagt | 2580 |
| tcaggcaaag ctgtagaatt acatTTTgat gcTTTcCTgt tgactgagtt gcgataatgt | 2640 |
| tttcttaatc cgcaatgctg taagccttagc tgctccattt gcataccaac attctctcat | 2700 |
| aatttttagcc attactctca aggccctacaa gaaaatataa aaaaaaaaaat taatgcatgc | 2760 |
| accatTTTcc attggTCTgg ataagaattt ttacgtgtaa atttttttt taaatgacat | 2820 |
| atacacttgt tattgtttaa gcattatttgc taatagcaaa tgagttagaaa ttacataaat | 2880 |
| ttccatcaat agggtactgg tgccagtgt ggaaagcagg tggacaaaga gtgactcatt | 2940 |
| tagcaaacct gaaaaggccg aatcctaaac cagagctggg caaagcaaag aagaaatctg | 3000 |
| acctcacact gaaattttaa gtttgactt tgaagtattt acatcaaatt tttttttctt | 3060 |
| ttttttttt ttgagacagg gtctcactct gccGCCaaa gtggaatgca atggcatgcc | 3120 |
| ctcagctcac tgcAGCCTTg acctcccagg ctccagcaat cctcccactt cagcCTCCCA | 3180 |
| agtagatcaa atttctaaaa gacaaaatct agcagcactc tcatttatta aactatgtca | 3240 |
| catgcaaatt ccttaagcat gctgaaatac attttatttta tttgggcctg gagatgttat | 3300 |
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| taagacgtaa aatcaactac tgaactgaac agcttttat agcTTTTTA agctacaaat | 3420 |
| cttcaaacct ggaggaatat gctctgcttc accaatatttgc taatagtaac agctagcaat | 3480 |
| taaggagagg ttAAATAAAA ttcatTTAC gaatTTAA atttacaatt acaAAAACGT | 3540 |
| ttctaaaact tttgtttaga gctgaagttg agcagctcag atactgctgg aaaaaagcat | 3600 |
| tttccctaaa ttcctggta acggTTATCT gggcaatcag atgaataAAA CGGAAATCA | 3660 |
| tttggaaacac ctttgtaatc accttatctg agttcCTCAC CTTGCAAAGG GATATTAAAG | 3720 |
| tccagagaac taaaggatt tgTTcagagt cagaccTTG aaatggtagc caggctggc | 3780 |
| tagaatacag ggCTCCTCAT tcatgtccgg taactgtcta gtgttctggg ttGCCCGGC | 3840 |
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| ttcttaaaga aaagTTTCC ttaaagaaaa gtagcaaact tttgcttact aagcagaagc | 4080 |
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| ttaaaaaaaa ttaaatttt atgaatttat tcagctaattg ccaaggcatt aaaagatcac | 4320 |
| ctgagagacc tattacagtg tttcattact aaagtaggta tgtgaaacag agattacagc | 4380 |
| tttctctatc tcattccacat ctgtatccac aagccacttc cctgagttga tattccaccc | 4440 |
| acaccttcaa actaagtatt gccatgagat caataaagcc tattgaaat gacagtaaac | 4500 |
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| attctattct gtaagtgcac aggctctcac ttgcacaggg atatatatac cctatcagt | 4620 |
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| caataatata tcctatttac tacaatacag agaaatactc tgtccctcac tgcttcaaaa | 4740 |
| acctaaggca ctaggtctca gccaagtcta ggtccccaaag cctaagagac tgttcctga | 4800 |
| gtaaacatta aaagtactcc atctaaaaag ctagaagttt aaacaaacta actctagaat | 4860 |
| acaacacaat ggttaacataa ttgtattctg tgtatgtac tgtaactatc aagttggaga | 4920 |
| aaataaccac aatctcaaag aaaaaaaaaa agtttgacac ccaggtacat gctagaaaca | 4980 |
| gcttcctagg tgagcctctc aagcagctgt ccattctaaa gaactatatt ccaatataac | 5040 |
| aaggggttgg gttctgatga gtctccagat tcaaattggaa acaggaagag aatacactag | 5100 |
| gcttagagctg tgcatgtgca caccatggca ctgtcccctc ccaaaggttt catgccttt | 5160 |
| gtttctctg gcactcggtg acatcctgtt tcagataatg gactgtacat aatttcattc | 5220 |
| aattaaaaaa agaagacaat tcttgaacaa cttctgctca tgacaaacta ctgggggaga | 5280 |
| ggagagcaat ttaccaccaa tggAACATCG tcgagcaatt tcccagaata ctaagcccatt | 5340 |
| tgcatagatg tcagcacgtt tgaaggattc aaaatgttc atatttatgg aatcatcgag | 5400 |
| aacttcaggg gccatgtacc taaaaaaaaa ttgcaaaaag aactttgaaa atcatcccct | 5460 |
| tactgccata tttggatgaa cctcctttca gacatttctt tatacataga catatgtaca | 5520 |
| caatattaca taacaaatat tagactcaag aaaaatatta aatatccaca ctggtttgca | 5580 |
| cattaaatgt gtcaactaaa tcccacaaaaa tgctaaaata gcagttcac actatctgcc | 5640 |
| tcatgatctt ggtttccaat gaaagacata cataacaatt gtgactgtta aaggtgtcct | 5700 |
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| agaatgccag tcctcataact gaagcttcaa aaacctacca aaattatggg tcaggaccac | 5880 |
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| tacggccata ccaccctaaa cacgccccat ctcgtctgat cttggaaagct aagcagggtc | 6000 |
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| gagtgactgc tagtggctac agggttctc tttggagtga agatattcta aaattgactg | 8160 |
| tagtgtttgc tggctgtaca actcttgagt attctaaaaa ccactgaatt ttacacttta | 8220 |
| agtgggtgaa ctttatgtg tgaattataa ctcataaaaa ctgttacaat caataataat | 8280 |
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| aatcccattt aagagacaaa gatggtgact ttttgagtc ttcacagata attggatca | 9660 |
| gagctggcac tcttaagtgc ctagaaaaat ctctgggtcg ggttgggtgc tcagtggtcg | 9720 |
| ttcctggaag gagagaaggt taaaaaaaaa gaaggaacag agagggaaagc aaggaggtga | 9780 |
| gaagtctccg gagaccagtg tggccacagt ggaaatggaa gagtatggaa caaaactgaa | 9840 |

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| | |
|--|-------|
| agttagttc aacaagaaat gacaagctt agtgacagat tgtgtacaca gttcacaaag | 9900 |
| acgcaagaca agatgattat gattccaagg ttgctagctt agaaaaacag aaatagtat | 9960 |
| acctctaaca catgggaag ctgaaatagg aactgaaatg tcaggagcaa aactggaaa | 10020 |
| gctggacta aactcaaaca acgaggaacg tgggtccaa aatttcctt gtaagccaa | 10080 |
| acacgagttt aaaacatgtt ttctcatagg aataatggta aagacactag ctaggctcct | 10140 |
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| gtacattaac ccctgacaaa gaagaaagaa gggagtagg gaagagccag tagggtcagc | 10980 |
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| ctcaccaaca ttttgtctg ctgtttgt aacttggaaat gtgacaaaat ccagaccctg | 11100 |
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| aggccaacag gacgaggaaa gttttgtct tccccttat cactggattc tagatgtcaa | 15660 |
| ttaaaattaa aaagcaaatc ttgatccact gtattatcta tattggatta cttcacatga | 15720 |
| atagttgagc atttttaaaa agttaacaat tggccaggca cagtgactca cacctcta | 15780 |
| cccagcactt taggaggccg acgtggttgg atcactagag atcaggagtt caagatcagc | 15840 |
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| gaaactccgt ctccaaaaaaaaa aaagtaacaa ttttcttcta aagacaaaac | 16080 |
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| gaaataagac ccgaacaaca tgcataatatt acaagagctc ataagctgca cacgccataa | 16260 |
| caaacactgg cctagaagac tcacttacaa aagctggcac atatgcacat gtgcacactc | 16320 |
| acacacttgg cgtacagctg ccagaaccca gctcttcatt gtattccctg aagttcccaa | 16380 |
| gttaaaagca cagtcttag aggttagagac agggccttc ctttaattatg gtcacggta | 16440 |
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| tgtatgttag atttttcctc caagtatgtt ttcaataaga gtaacacttg tcatttggac | 16800 |
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| caatccaaatg atgtgcacag aatccatcac tttcattttaa aagatgaaat aactcaagca | 16920 |
| tgagacattt gttactgcc caaagccaca gagctgcaaa gcaatgcaga caagtttttg | 16980 |
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| gcttattcca ctgtggcaag tggcatgagt gctgtgtctt tccggagtat aagtttagaa | 17280 |
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21512-US Sequence listing.ST25.txt

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| caaggccagg tgatgacttt | actgaaaaag ggcctcgagt | gaaataaaaca | tcaacaacga | 19440 | | |
| caaaaacact gtaggtggca | accccccattt | tcccaatcct | acacaattcc | tgcagctggc | 19500 | |
| cactgccacc acttagccaa | agagcctcat | tacagcagtt | tacagggctc | aaacccagaa | 19560 | |
| caagtgaatc agtcttctcc | cactaggcct | ccttttatgc | acaccagctc | tgtcagcacc | 19620 | |
| cacttactcc tgtattcttc | agccatcatt | acaaggccaa | ctgcccggca | tatcatagga | 19680 | |
| ccttccccac ttatcacatc | aggtcactaa | taccaataac | ctgtaacaat | acctattaac | 19740 | |
| atctccttaa aaatcatatt | tttttaatg | tttggcttgt | cttcttggtc | caaggccagt | 19800 | |
| acatgctcat agcaagaaaa | acaacaacaa | aaaaaacaac | aaaatatcaa | aacaagcgaa | 19860 | |
| aaaaaaaaacc acatacatct | tcatcacttc | taaacaactc | acattttagt | atatatctct | 19920 | |
| ccaccaattt ttttttttt | tgagatggat | tttcacttt | gttgcggagg | ctggagtaca | 19980 | |
| gtggatgtat | gttggctcac | tgcaacctcc | gcctccggg | ttcaagcgat | tctcctgcct | 20040 |
| gagcctccca agtagctggg | attacaggca | tgtgccacca | cacctggcta | atttttgtat | 20100 | |
| cttaatagag acggggtttc | accatgtgc | tcaggcttgt | ctcgaacccc | taacctcaag | 20160 | |
| tgatccacct accttggctt | cccaaagtgc | tgggattaca | ggcatgagcc | atgcccggcc | 20220 | |
| aataggcca ccaattttt | aaaggcagaa | catactttt | acttttttt | tttaacagag | 20280 | |
| tttgcataata | tatactttt | atactatctt | aacctcctgg | acttttaagt | ccagatcatt | 20340 |
| ttcttgtaac ttcttattaa | aattaagatt | ttctggtgt | ttcagaaaat | tacaattatt | 20400 | |
| ttgacattca tcctgagtct | tactggttt | ctgcttacca | ccatttcttt | catacacat | 20460 | |
| ctttccatt cttaagatct | tcagtagatt | aatctcttat | catacagaat | cctatttcta | 20520 | |
| gtaatttctt tcaggaagag | tccatgcacc | cttgcacact | gaacttagtt | gtggcaagaa | 20580 | |
| ggctgttgcc tttgtatatg | aaaaatcttgc | gcctatttca | agaatttttag | gtgatcgtaa | 20640 | |
| aaatgttcca tttgccttt | gatatttaag | cagaaaatct | gaacctgttt | tttttttca | 20700 | |
| ccttttacag gtaaccaatg | tttatgtgt | ttaaatgctt | atataattct | tttattcttgc | 20760 | |
| aaattgatac tttttattat | atgtgtttgg | attaatattt | tttcattaaat | tttgccttgt | 20820 | |
| attctgtctt ctttatgatt | tcatgcctt | ttctggatt | ctgataataa | gcatttttgg | 20880 | |
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| gtaacacagt ttcttaaaac | ttgtccaaa | cttgactata | aaattatggc | atccagtctg | 21000 | |
| ttgttcgctc tcaatagtgc | attttaaaa | acattcatca | gttggcttt | tcttctgaaa | 21060 | |
| gcaacctta acaactgtga | aatgttctca | tttcatagtg | aataactgaa | aatagaccct | 21120 | |
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21512-US Sequence listing.ST25.txt

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| aagcttgtca | aaatagagaa caccatataa tgtacataaa atttcctct agtccagata | 30720 |
| atatttacc | cctgaattta gggcatcaga ataaacgcct gattttttc cagataaatt | 30780 |
| ccatttactt | ctgccacttt taaagaattt aagatgcatt gtttattcatt taacccacat | 30840 |
| cacatctaa | aagaacaggg cactccaaa ttcacaagct cttgttttc cacattatct | 30900 |
| tcattttcca | gtctcctagt ttctatggaa ttagccaata taatgttaac tgatatcaga | 30960 |
| gaaaacacac | taagaatagg ctgcccataat ggcaagatgg gatttaacag ggtaactaat | 31020 |
| acaaaggctt | tcacttagat tcgaaataaa tcacacaagt acagcataaa gatctggta | 31080 |
| gcagatctga | ggagtttaac aacacattt agaagagtca gagccttaa aaagtatctt | 31140 |
| ttaatccatc | aattctacta cttacagttg tctgaggaaa caataggtga gagaaaaat | 31200 |
| ctaaacttgc | agatgttcat tacagtattt tatgattgaa aacaacctat gtgaatgaca | 31260 |
| atacaatgac | agaatgaatc cttatacaat cataaatgaa agactatata gccattaaaa | 31320 |
| ctggtatTTT | agaagcatgt ttaaggacaa gggatggc ctactactaa agggcaggaa | 31380 |
| gtaaagctgt | atagtgtgat tacaattaca gtcctgtcaa gtgaccttgt tttgttcca | 31440 |
| cttcaatgag | ttgagggat atttaatat acagagcaga tgtgcacact ttgccttacc | 31500 |
| ccaggccctg | aaaagaaatg gagaaacttc tatgtctaaa ggtgagtgct aaaacaataa | 31560 |
| ccaaatttct | tatttcctct caatctaagt atgctttac acagttctt attagattt | 31620 |
| aatttgacta | gtggtaggt attataagga tatggtagtt aagttgatgg aactcagaga | 31680 |
| cagaaaaact | taagttaaaa tcctatctt gccagtcagg cactgagtaa tcctgaggaa | 31740 |
| gtcacttaac | ttatttgaac ctaaatttct tcaacttact tcctaaattt ataacatact | 31800 |
| aacaaacagt | accaatctca gaaggTTGA gggtaatga aataacatac atagaatact | 31860 |
| tagcacagt | cccagcacat aataaaatgt tcaaaaatta gtttatgcac ttttcaaca | 31920 |
| agtatttctt | tggagctcct attacgtgcc agtctctggt ctagatgcta gacagagaat | 31980 |
| cagagctaat | gttgagacag ctctggtagg caatactgac acagaacaca atataaacca | 32040 |
| tatgcatata | caacagtcaa tgTTcatggt acctatcagc tctttcct tcataaatat | 32100 |
| tcatacagtt | tttcaacaat atgactgaac agacctggct caagaacttc actacagtag | 32160 |
| cagtaggcac | acacagaaag tatatttca gttccaaccc aaattaacag tgttagggaca | 32220 |
| cacccagtgt | gtatatgtaa tatccctaatt aaataagtta atatctaatt agccataaaaa | 32280 |
| tgttcatgct | ggaaggaata tgaacagaaa tatcagatcc cagctcctt agagatgaag | 32340 |
| aaacagaaat | gtcctaacag ttacatcaac ataatctaga tttattccaa aagtacacaa | 32400 |
| agaaaaaaaaag | gattacttga taatctacag tgattccac ccctactccc cacaacccct | 32460 |
| cacgtaggac | aaaaccgaaa atttcaacct ttcccttgg aaagcacgag tggctgttagg | 32520 |

21512-US Sequence listing.ST25.txt

agagactggc ttggttgcac agataataag gtgtataat gaacgtaaat gaaagtggct 32580
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| aaccaactcc | agatacatct | aatgtgaga | ggtaaaacca | atctttaaa | tgaaaacaca | 34440 |
| ggaaaacatt | tttaaaacat | ttgggtcaga | aaaagtaagc | aaacaggatt | ctaacttaaa | 34500 |
| gcaaaaaatt | gaaggccggg | cacggtggct | cacgctgtaa | tcccaatact | ttgggaggcc | 34560 |
| gaggcaggca | gatcacctga | ggtcaggaat | tcgacaccag | cctggccaac | acggtgaaac | 34620 |
| cccatctcta | ctaaaaatac | aaaaaaaaaa | aaaaaaaaatag | ccaggcgtgg | tggcagatgc | 34680 |
| ctgtaatccc | agctacacgg | gaggctgaga | caggagaatc | acttgaaccc | aggaggcaga | 34740 |
| ggttgcagtg | agccaagatc | gcccactgc | attccagcct | gggtgacaac | agtgagactc | 34800 |
| cgtctcatct | gaaacattca | tctcccttgt | caaacaaaat | accaaagcaa | agcagttaaa | 34860 |
| ttgtggttgc | agtctcctag | aagaacacag | ctgaattgaa | ccaagcaagg | acagaaaagc | 34920 |
| ccaccaaaag | gaaggagctt | ttgttattatt | tctatatttg | cattttata | atattttaa | 34980 |
| tcattaaatt | ttggactccc | ttggagccta | aagatataag | catctagtgt | tgactgaact | 35040 |
| ccttcaggg | aaacatttgc | ccttgagac | taaactatgt | gtatatgaaa | acttaggctt | 35100 |
| gagatgtact | gtaaccaagc | taataaagtt | ttcagacctc | aaaatctaca | tgccgagact | 35160 |
| tggcattagg | aatatgggtt | tccaaattgct | ggtagcattg | atacagtagc | atcatggcta | 35220 |
| ctgaagaaag | tggggggttg | gttattaaaa | gataaggatc | tatcaggctc | agaggcataa | 35280 |
| gggtcttgat | gttatttata | ccttgataa | ctgatgatac | aacaccgaag | actatcttgc | 35340 |
| agaattatga | aatctatatg | taagtcaata | atcactagtc | tctagataat | agtttagaat | 35400 |
| ggttcacagg | tgattatact | catttcttcc | ataagatttt | ccttttccc | agttacagag | 35460 |
| actaagctaa | atcagatgga | agcaccaat | tgcttaggc | aactacgcta | tttcctcagg | 35520 |
| gacacaccat | ctgtttgcaa | tgcacagcta | attctgagcc | tgttggcct | cgcagagttt | 35580 |
| tcccttaaga | cttctgcctg | atgcctaaaa | tcccttaaaa | ctcctccctc | ctttcccttc | 35640 |
| tcccatggta | aggcaagagc | aggctggatc | tgacaaaact | taaatgatag | atgagatcta | 35700 |
| cataaaatac | ttatgtggcc | ttttttttt | tttttaagaa | taaagtgaag | aaacaattat | 35760 |
| gatcatgggg | agaaagaatg | tgagagcaga | aaggctcaag | tttatacatg | catcgaaata | 35820 |
| agagggaaaga | aaacaaaagg | acaatgcacc | atggaaagaa | ggaaagcaa | ataatggaaa | 35880 |
| gggagaaaaaa | aggagcatct | tttccttagga | aagtaatcta | caatgctgtg | ttaatctgcc | 35940 |
| aacgctttgg | tggactggc | aatcagaaat | tgtcttcct | cactgacaaa | catgaccaga | 36000 |
| ctctggcccc | tgatttgtaa | ttttttccc | aaatgtaaaa | tgagacaaaa | taactaaaac | 36060 |
| tacttaact | tgtttatTTT | gataaaataa | tttatataaa | ttattgttga | aggaaatcta | 36120 |
| caatacacaa | tcttgggtgt | ttttatttaa | atctatcaca | cattgaataa | caaaattaaa | 36180 |
| atgtcagttt | ttcaactgga | gaaagtactc | aaatcaacaa | ccacgtgctg | aacaaagaga | 36240 |
| cccaattaga | gcacattata | gtttgatttg | gaaatgaata | catcaagcaa | aaaataaaaa | 36300 |

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| | | | |
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| cctttattga acacctactg | gtgtcaggct atgtactaag | tgtaaatact actgtacact | 38280 |
| atcttcacaa cgatcaggta | aatttaggaac tatkctctt | tgaaaagtga gtcacagata | 38340 |
| cactgattag actctaatta | cagccagata tggtggct | tatatactac tcctataaac | 38400 |
| aaatattca ttaaatttct | gacaaccaag tcacatgaat | ttaatctgcc ttcaaaactg | 38460 |
| aaagaaaaac ttaagttaga | tcaatccaaa tagaaaaaga | gagatggctc agggatacaa | 38520 |
| ctgcaccagt gtttggca | ttgagaaaaa caacaggaaa | agcatttaaa aggatagcca | 38580 |
| tcagggagct ccaggagata | gtaaagctga cacctgtaac | atcagcaacc atgacctgag | 38640 |
| gcctaggccg caagcaggaa | acttcctctc ttttatctca | gccagaacc acactccaa | 38700 |
| aagatcaaac gcattactgc | agagaaagca gcactgtctg | aaggttaatt tcaatacaac | 38760 |
| cagaagatca caagtaattc | tgaatatata catcttact | aagagaggtg gggaaaaat | 38820 |
| agcatgaacc tgcaaaacag | gaaagaacca tatcccagca | aacggaccag gactccagat | 38880 |
| acaagctagg acttcagggt | ctaaataaaa actccattta | agtagcggt ttaggacact | 38940 |
| agaatcctcc tacccccaaa | agagaaagac agagagagag | agagagaata tgaggtgaat | 39000 |
| gctagatgct agtagccatt | tcttgctta aggtgctctc | ccatttccaa ctaggttcca | 39060 |
| ttttttta atcttgctg | actactgagc aattttattt | ggctaccttc acctcaaact | 39120 |
| caacatgct aaaccagaat | tcgtctcccc ttaatcctcg | tgccaaatta ctcattaagt | 39180 |
| taaaggcatt atccagccta | aaaaagctt gagtcattct | ttttcttc atggagtac | 39240 |
| tctgaatttc tgtactccac | ctcttacag ctaagaccta | ctgccactca acaaataatt | 39300 |
| actgagtgcc taggatgcac | caggcacttt ccatacactt | gagatacatt agtgaacaaa | 39360 |
| acgaagacat ccacttcac | aaagcataga atgataggaa | ggagacaata aacagtaaat | 39420 |
| aagtacatat gataagtaaa | taaatacagt atgttagaag | gtattgttac agagaaggaa | 39480 |
| agcactgtag gatgatgaca | atatttaaa aggtggcagg | ataagcctca ctgagaaaaa | 39540 |
| ggtgtcatct gagcaaagac | ttgcaggagg tgagggagga | agccatgcag gtatgtgagg | 39600 |
| gaagagcaca caagcaaggg | aacagccaca cacaggccct | actactaatt cctctgattt | 39660 |
| ctttgttca aatgtcatac | agtcaccatt tcacccgtt | ctcaatgcca tcaaaccaac | 39720 |
| tggtagcca ccctgatcca | ttccctctgc ggcacaatta | gacattctt ttccacatta | 39780 |
| aaaccactct cctgatttc | aaggccata attctctgag | cccaccctt acaccatgaa | 39840 |
| cttccatttc tcctcttgc | aatcctgaaa cttagaatgc | tcttctcca cacatgccat | 39900 |
| cctctccagc caagaagtgc | ctccttcca ccacacatcc | actcaaagcc ctatcctcct | 39960 |
| gcaaggcaga gagatcaagt | cctacccct ctgtaaagca | gtccctgtgg ttgctagtac | 40020 |
| tgagtctgta gtcataatttc | ctcagcatca atttttcaa | aagcaagact gccttact | 40080 |

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21512-US Sequence listing.ST25.txt

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| agttctatgg gacaaagcat taaaaaatcc ctgagaaata tgccagcatc tgccctcaat | 42120 |
| tccaaaagca ggaagcaaag atgtgaccca atcacatgtat atcaaaccac agtccatctg | 42180 |
| ttcagagaac tctgtgttac gtaagccatg accaaggaag aactgcaaaa ggcaagaggt | 42240 |
| gtgtcgacat ttgcaagggg ctctgtggtt tgaagagaca cgttctcaca tcagaaggc | 42300 |
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| aataaaatga cactacaaga atggtgttga gtccctgtaa ctgctcaact aaggcctaga | 42420 |
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| ccagtggaa ctgcttattt aacatcagtc ctgcttttgc gcaacaacac agaatagcaa | 43560 |
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| aaactggact tacataaaac agtataaata ttaaaggaat gctcaaata gaaatcaacaa | 43800 |
| gcatttatgt ggaatagaat ataaaacaca gtgctaagtt ctgaggccac aaaagaaaga | 43860 |

21512-US Sequence listing.ST25.txt

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21512-US Sequence listing.ST25.txt

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21512-US Sequence listing.ST25.txt

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21

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16

21512-US Sequence listing.ST25.txt

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16

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21512-US Sequence listing.ST25.txt

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21512-US Sequence listing.ST25.txt
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21512-US Sequence listing.ST25.txt

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21512-US Sequence listing.ST25.txt

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21512-US Sequence listing.ST25.txt
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21512-US Sequence listing.ST25.txt

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gcag

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